



Facts and figures

Start: Winter semester

Duration: 6 semesters

Degree: Bachelor of Engineering

Language: English

Admission not restricted

Application and enrolment

Admission requirements



General admission requirements:

www.uol.de/stud/107en

Language skills:

German native speaker or level A2 (GeR)

English native speaker or level B2 (GeR)

Application

Application deadline: 15 October

German higher education entrance qualification:

Online application

www.uol.de/studium/bewerben/bachelor

EU or international applicants:

www.uol.de/en/application/international-students/bachelor

In cooperation with



Contact

For questions about the subject/degree programme

Academic counselling for Engineering Physics

www.uol.de/en/subject-specific-student-advice

Student representatives for Physics

www.uol.de/en/student-bodies/student-council-of-physics

fsphysik@uol.de

For questions about your studies

Study and Career Counselling Service

www.uol.de/en/zskb

Basic questions about application and enrolment

Student InfoLine

Phone +49 441 798 - 2728

study@uol.de

Visitor address

Student Service Centre – SSC

Haarentor campus, building A12

26129 Oldenburg

www.uol.de/en/students/service-advice

Further information

Engineering Physics website

www.uol.de/en/ep

Degree programmes at the University of Oldenburg

www.uol.de/en/students/degree-programmes

Offers for prospective students

www.uol.de/studium/studieninteressierte

Financing your studies

www.uol.de/en/students/fees/financing-your-studies

Optional period abroad

www.uol.de/en/going-abroad

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Carl von Ossietzky
**Universität
Oldenburg**

Engineering Physics



Single-Subject Bachelor's Degree

Engineering Physics (B. Eng.)

The Carl von Ossietzky University of Oldenburg and the University of Applied Sciences Emden / Leer jointly offer the international bachelor's degree programme Engineering Physics to bridge the gap between traditional physics and engineering. Since 1998, students have been trained here to understand and develop modern technologies with a comprehensive basic education in mathematics and natural sciences combined with application-oriented engineering sciences.

In the „Laboratory Projects“, teams work on tasks from professional practice. Many students complete their final thesis in a technology-oriented company or an external research institute. More than half of the students in the international Engineering Physics programme come from abroad. The courses are entirely held in English.

Therefore, a good knowledge of the English language is required for this English-language degree programme.

Career opportunities

The Bachelor's degree opens the way to a professional career and a Master's degree programme.

Possible occupational fields are:

- Technology-oriented industrial and research facilities
- Project work in the management sector

Further qualification is possible through a master's degree programme. A Master's programme can be started at many universities in Germany or abroad. At the University of Oldenburg there is, among others, the Master's Engineering Physics.

Structure of the programme

BASIC MODULES

33 CP

Compulsory modules

Mathematical Methods for
Physics and Engineering I / 9 CP
Mechanics / 6 CP
Basic Laboratory / 9 CP
Electrodynamics and Optics / 9 CP

ADVANCED MODULES

87 CP

Compulsory modules

Basic Engineering / 6 CP
Specialisation / 6 CP
Mathematical Methods for
Physics and Engineering II / 6 CP
Electronics / 6 CP
Mathematical Methods for
Physics and Engineering III / 6 CP
Atomic and Molecular Physics / 6 CP
Quantum Structure of Matter / 6 CP
Lab Project I / 9 CP
Numerical Methods / 6 CP
Thermodynamics and Statistics / 6 CP
Metrology / 6 CP
Material Sciences / 6 CP
Control Systems / 6 CP
Solid State Physics / 6 CP

COMPULSORY

30 CP

Practical module / 15 CP
Bachelor's thesis module / 15 CP

BACHELOR OF ENGINEERING

180 CP

SPECIALISATION MODULES (30 CP)

Contents of the programme

In the first three semesters, the foundation is formed in physics and in engineering sciences. The physics and mathematics modules are closely aligned with traditional physics and engineering education. The students acquire the ability to quickly translate their knowledge into solution-finding in science and industry.

The specialisation takes place in one of the following areas:

The **Biomedical Physics** specialisation focuses on the application of physical principles to medical diagnostics (X-ray, ultrasound) and therapy (e.g. laser medicine, minimally invasive surgery, radiation therapy). An important subfield in Oldenburg is audiology.

In mechanical engineering, the automotive industry, aviation, the environment and the workplace, the importance of vibroacoustic issues is increasing rapidly. The physical fundamentals of sound and vibrations, including psychoacoustic effects, are studied in the focus area of **Acoustics**.

Laser and optics are key technologies of the 21st century. They are elementary in science for almost all breakthrough measurements, information, and communication sector, in medical and environmental measurement technology, and in production engineering.

Solar radiation and wind energy provide the highest potential for future energy supply. In the specialisation **Renewable Energies** theoretical basics of the conversion possibilities of these forms of energy and the corresponding limitations are imparted and for physical and technical concepts mode of action, limitations and application possibilities are discussed.

Stay abroad

It is recommended to study the fifth semester at a foreign university. Due to the close coordination of the modules to be completed with the partner universities, a stay abroad can be completed within the standard period of study. Students are supported in their preparation as well as in the exemption from tuition fees of the foreign university and scholarships.